

1 CLAIMS:

2 I claim:

3 1. A composition suitable for use in the manufacture of construction board comprising:
4 a dry powder mineral substrate selected from the group of minerals consisting of calcium
5 sulfate, perlite, and combinations thereof; and

6 a synthetic binder, said synthetic binder comprising starch, a boron source, and a blend of
7 a first polymer and an amino resin, said first polymer being selected from the group consisting of
8 polyvinyl acetate and polyvinyl alcohol.

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10 2. The composition of claim 1, wherein said amino resin is selected from the group
11 consisting of aniline formaldehyde resin, melamine formaldehyde resin, urea-formaldehyde
12 resin, and urea-melamine formaldehyde resin.

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14 3. The composition of claim 1, wherein said first polymer and said amino resin are
15 present in said composition in proportion to one another ranging from 40:60 to 60:40.

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17 4. The composition of claim 1, wherein said amino resin comprises an aqueous solution
18 having from 55% to 70% solids.

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20 5. The composition of claim 1, wherein said amino resin is present in said composition in
21 an amount of about 0.5% to about 1.5% of the total wet weight of the slurry, and said first
22 polymer is present in said composition in an amount of about 0.3% to about 1.5% of the total wet
23 weight of the slurry.